Small Signal Schottky diode

RB751V-40S2

Description

Planar silicon Schottky barrier diode encapsulated in a SOD-323 plastic SMD package.

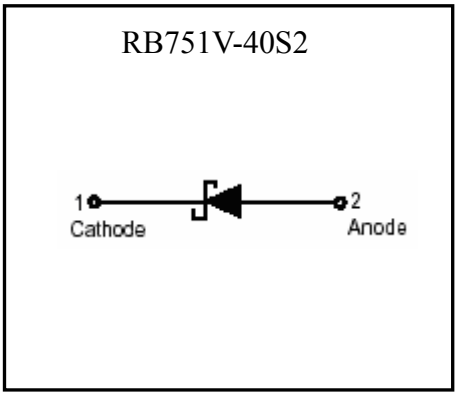
Features

- Small surface mounting type SC-76/SOD323
- Low reverse current and low forward voltage
- High reliability
- Pb-free lead plating and halogen-free package

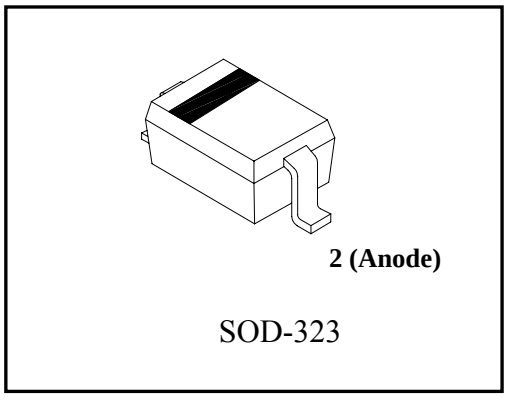
Applications

Low current rectification and high speed switching

Symbol



Outline



Ordering Information

Device	Package	Shipping	Marking
RB751V-40S2-0-T1-G	SOD-323 (Pb-free lead plating and halogen-free package)	3000 pcs / Tape & Reel	5E

Absolute Maximum Ratings

- Maximum Temperatures

  Storage Temperature Tstg..... -40~+125°C

  Junction Temperature Tj ..... +125°C

- Maximum Voltages and Currents (Ta=25°C)

  Peak Reverse Voltage V_{RM}..... 40 V

  DC Reverse Voltage V_R ..... 30 V

  Mean Rectifying Current I_O ..... 30 mA

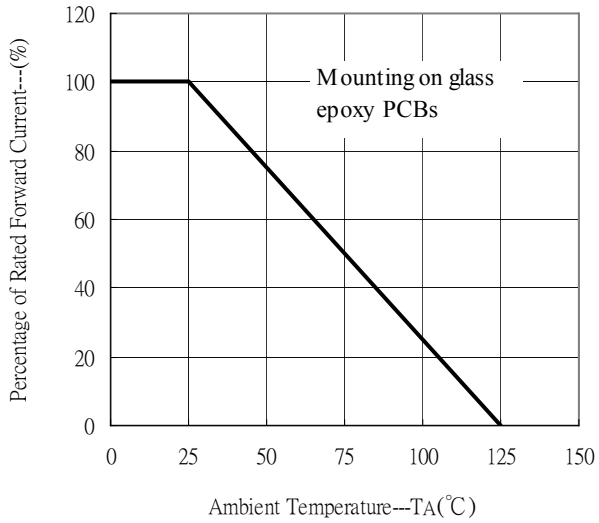
  Peak Forward Surge Current I_{FSM}..... .....200 mA

Characteristics (Ta=25°C)

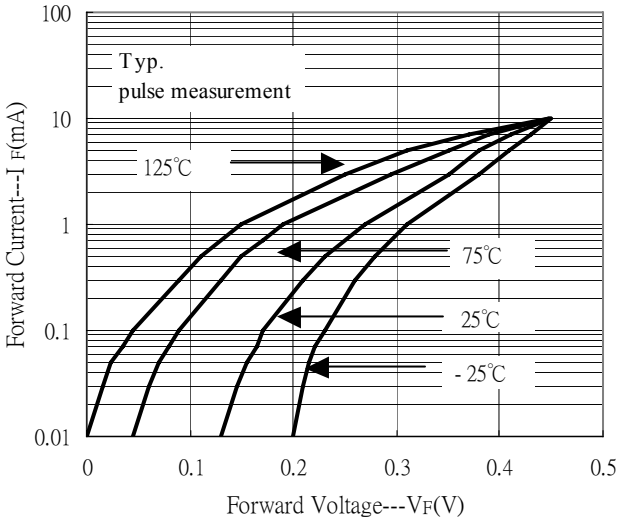
Characteristic	Symbol	Condition	Min.	Typ	Max.	Unit
Forward Voltage	V_F	I_F=1mA	-	-	370	mV
Reverse Leakage Current	I_R	V_R=30V	-	-	0.5	μA
Capacitance Between Terminals	C_T	V_R=1V, f=1MHz	-	2	-	pF

Characteristic Curves

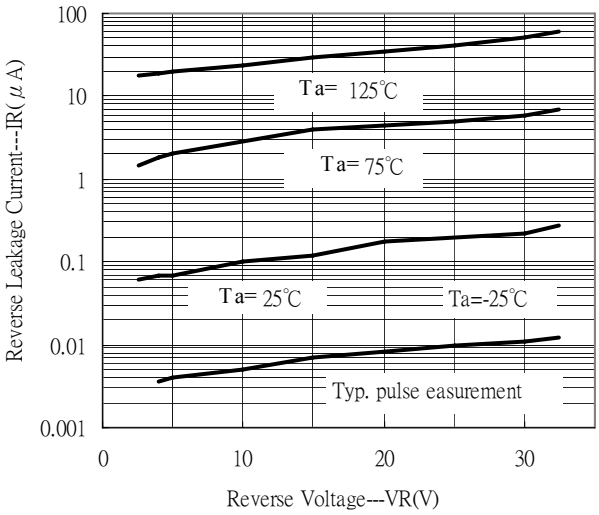
Forward Current Derating Curve



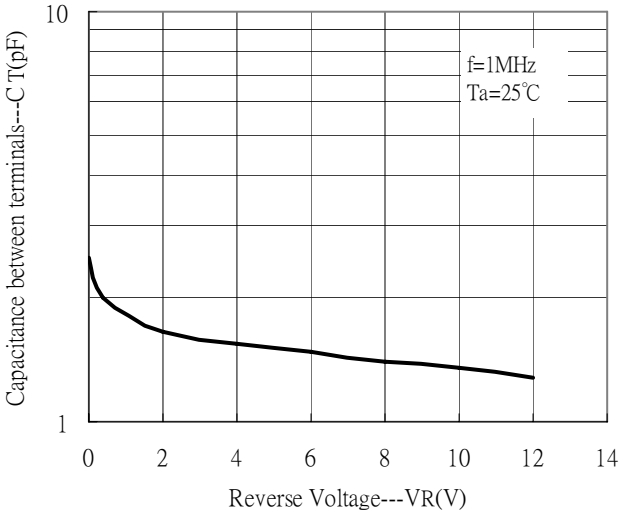
Forward Current vs Forward Voltage



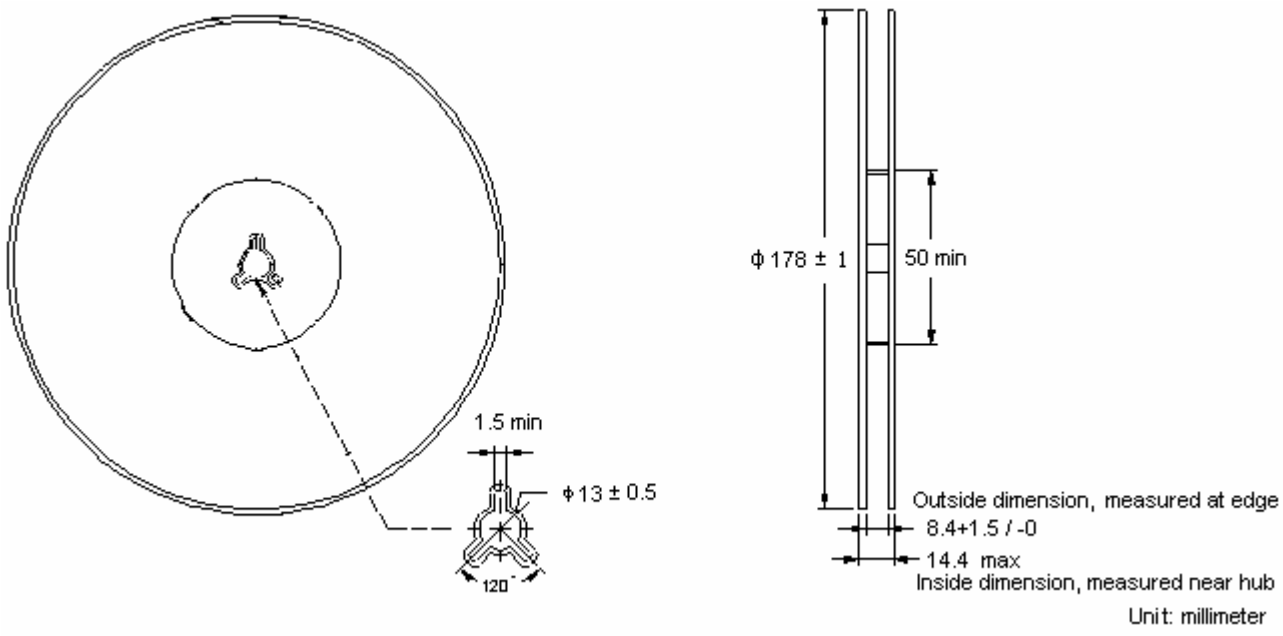
Reverse Leakage Current vs Reverse Voltage



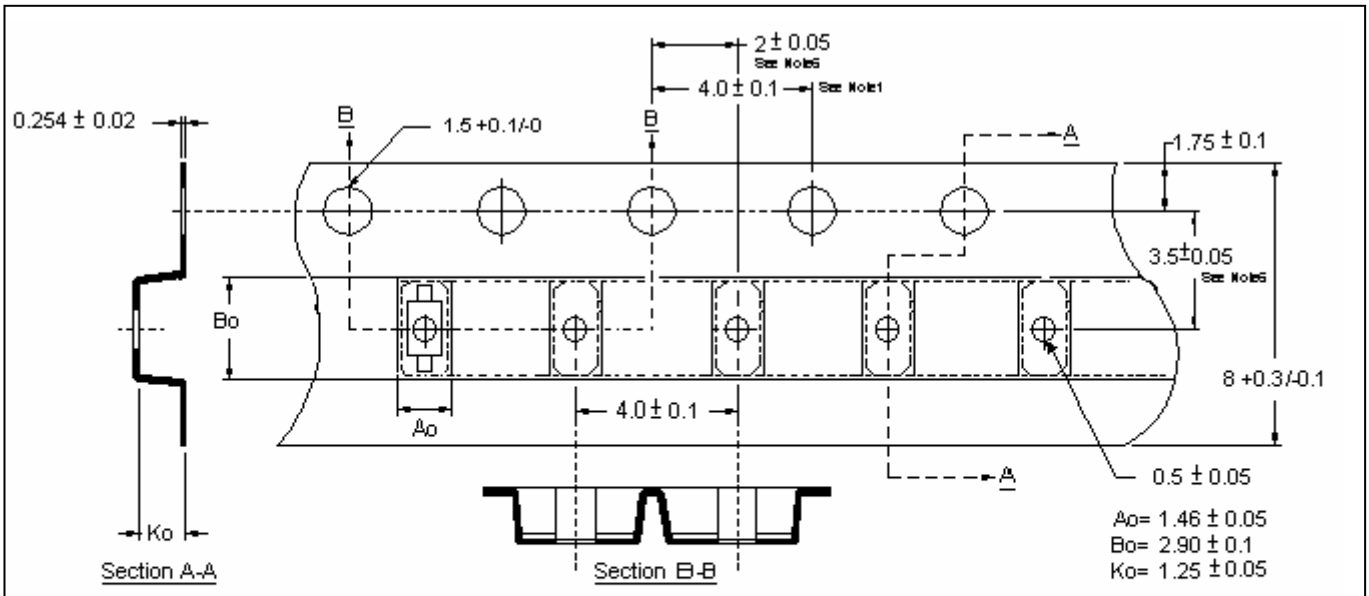
Capacitance vs Reverse Voltage



Reel Dimension



Carrier Tape Dimension



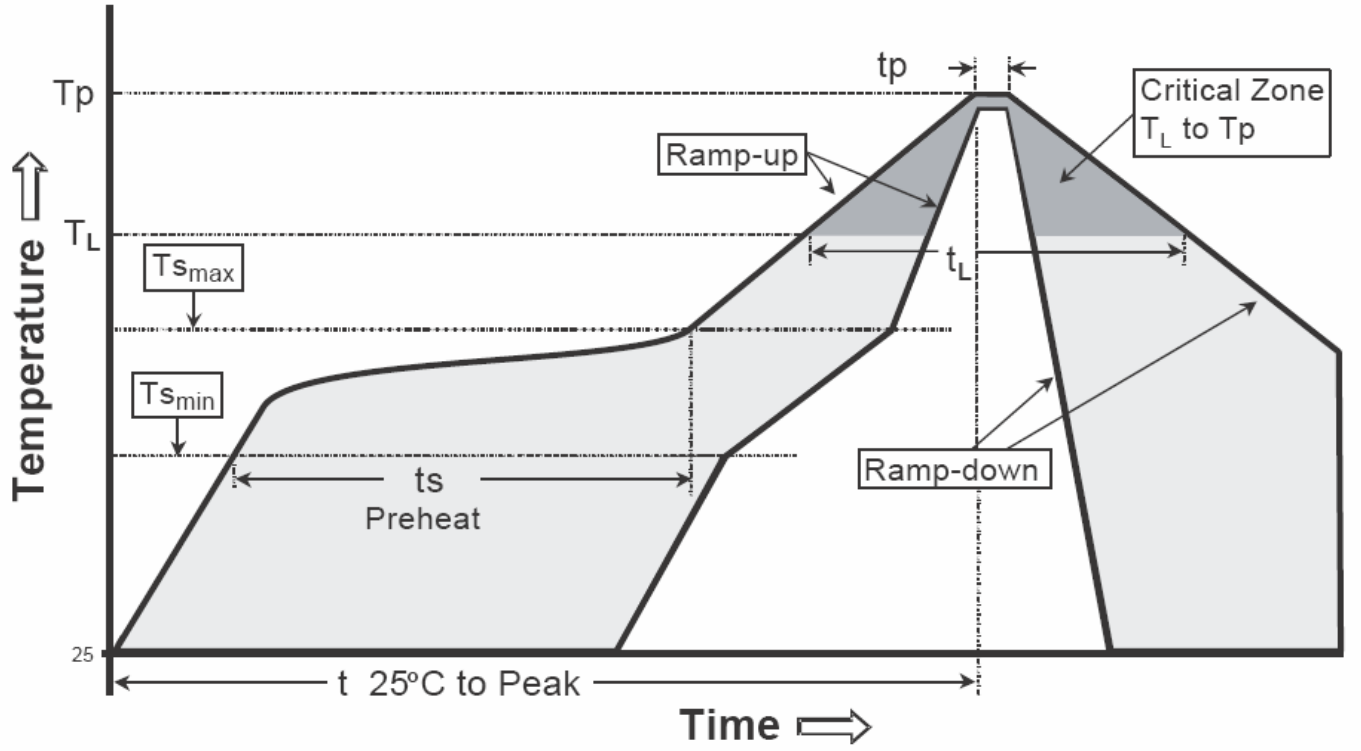
Notes:
1. 10 sprocket hole pitch cumulative tolerace ±0.2.
2. Camber not to exceed 1mm in 100mm.
3. Material: Conductive Black Advantek Polystyrene.
4. Ao & Bo measured on a plane 0.3mm above the bottom of the pocket.
5. Ko measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
6. Pocket position relative to sprocket hole measured as true position of pocket, not pocket hole.

Unit : millimeter

Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

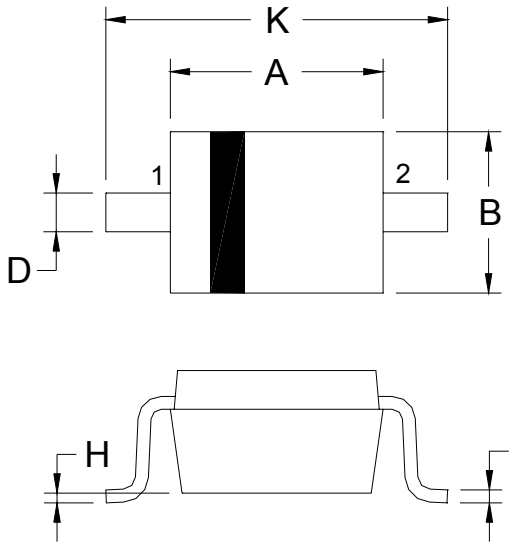
Recommended temperature profile for IR reflow

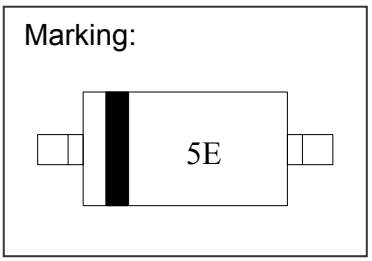


Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
Average ramp-up rate (Tsmax to Tp)	3°C/second max.	3°C/second max.
Preheat −Temperature Min(T_S min) −Temperature Max(T_S max) −Time($t_{s\ min}$ to $t_{s\ max}$)	 100°C 150°C 60-120 seconds	 150°C 200°C 60-180 seconds
Time maintained above: −Temperature (T_L) − Time (t_L)	 183°C 60-150 seconds	 217°C 60-150 seconds
Peak Temperature(T_P)	240 +0/-5 °C	260 +0/-5 °C
Time within 5°C of actual peak temperature(tp)	10-30 seconds	20-40 seconds
Ramp down rate	6°C/second max.	6°C/second max.
Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

SOD-323 Dimension





Style: Pin 1.Cathode 2.Anode

2-Lead SOD-323 Plastic Surface Mounted Package,
CYStek Package Code: S2

*: Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.0630	0.0709	1.60	1.80	E	0.0060 REF		0.15 REF	
B	0.0453	0.0531	1.15	1.35	H	0.0000	0.0040	0.00	0.10
C	0.0315	0.0394	0.80	1.00	J	0.0035	0.0070	0.089	0.177
D	0.0098	0.0157	0.25	0.40	K	0.0906	0.1063	2.30	2.70

Notes: 1.Controlling dimension : millimeters.
2.Lead thickness specified per L/F drawing with solder plating.
3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material:

- Lead: Pure tin plated.
- Mold Compound: Epoxy resin family, flammability solid burning class: UL94V-0.